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Gray langur on the forest floor **Photo by V. Ramakanth, I.F.S.**

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FEEDING HABITS OF COMMON LANGUR *(Presbytis Entellus)* LEADING TO HUMAN PROBLEMS IN ORISSA

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Introduction

The sacred monkeys *(Presbytis entellus)* are abundant all over India excepting the north eastern states (Roonwal and Mohnot, 1977). They are legally protected under the Wildlife (Protection) Act, 1972 and are included as Schedule - II animal. Although poaching, trapping and transporting have now been totally restricted, their natural habitat is lost due to deforestation and urbanisation (Mohnot, 1979), as a result of which they have adopted a semi-arboreal or terrestrial life. This life style ultimately compelled them to depend more on the available food, mainly crops, vegetables, fruits in the field and the orchards. They generally raid rabi crops in a group causing a great loss to the economy of the farmers. Therefore it was felt necessary to completely drive them out from the vicinity of people's habitation in order to save the crops. In the present paper, attempts have been made to study the feeding habits of the common langurs, people's trials to safeguard their crops, and suggestions for control measures.

Study Area and Methods

Orissa is a small state situated on the eastern coast of India. The average annual rainfall ranges from 150-250 cm. Temperature lies between 7° - 46° C. Forest covers only 24% as against the average of 33%. The present study was made in a small village Anijo and its nearby villages with an area of 36 km². It is situated in Bhadrak district of northern Orissa and bounded by the river Salandi on three sides and rest being continuous with the land mass. The area includes gardens, orchards, crop field and man made forests. Field observations were made to study the feeding habits with the naked eye and sometimes with the help of an 8 x 30 binocular.

Observations

Being an adaptive wild animal, langurs feed on a large variety of food plants that are useful to human beings. Deforestation and habitat degradation have changed totally their life style from tree dwellers to ground dwellers. They very often come in contact with the common inhabitants and raid their crops and vegetables. The leaves, fruits and flowers of various plants (listed in Table -1) are taken by them. Vegetables crop are more drastically affected as these are raided by groups. Scarcity of leaves and fruits increases their attack on crops leading ultimately to man-monkey conflict. People drive them out from their crop fields and vegetable gardens but the langurs never leave the feeding site, coming back again to the original spot. Throughout the day they are busy in attacking crops. In early morning, the male whoops (De Vore and Eimer, 1969) and raid the gardens. They attack the field in groups and completely empty the entire field within a very short length of time. It has been observed that these monkeys choose a feeding site close to tall trees which enable them to visualize a larger area and also to protect themselves from human attack. The male of a harem takes the responsibility of guiding and protecting the entire group from danger (Behura, 1989). The male remains at the top of the tree and detects the others. The females do not leave the place inspite of human attack unless the male leaves the place.

Table 1 Dietary items of common langur

Scientific Name	Local Name	Part of Plants
Abelmoschus esculentus, L.	(Bhendi)	F
Achras sapota, L.	(Sapota)	F
Aegle marmelos, Corre.	(Bela)	F
Allium cepa, L.	(Piaja)	L
Anacarium occidentale	(Kaju)	F
Ananas sativus	(Sapuri)	F
Arachis hypogea,L.	(Chinabadam)	L
Artocarpus integrifolia, L.	(Panasa)	F
Averrhoa carambola, L.	(Karmanga)	F
Benincasa cerifera, Savi.	(Panikakheru)	F
Bombax malbaricum, Dc.	(Simili)	L
Brassica nigra, koch.	(Sorisa)	F'L
Brassica oleracea, var. *capitala*	(Bandhakobi)	L'
Brassica oleracea, var. *botrytis*	(Phulkobi)	F
Canjanus indicus	(Harada)	LF
Capsicum annuum, L.	(Lankamaricha)	L
Carica papaya, L.	(Amrutavanda)	LF
Cebhalandra indica, Nand.	(Kunduri)	F
Citrullus vulgaris, Schrud.	(Tarubhuja)	F
Cocos nucifira, L.	(Nadia)	F
Cucumis sativus, L.	(Kakudi)	F
Cucurbita maxima, Swrtz.	(Kakharu)	F
Cucuma longa, L.	(Haladi)	F
Cicer arietinum, L.	(Buta)	LF'
Dolichos lablab, L.	(Simba)	F
Dalbergia sisso,	(Sisso)	L
Emblica officinalis, Gaertn.	(Anla)	F
Eugenia jambolona, lamk.	(Jamukoli)	F
Luffa acutangula, Roxb.	(Jahni)	F
Lycopersicum esculentum will.	(Bilatibaigana)	LF
Mangifera indica, L.	(Amba)	F
Momordica charantia, L.	(Kalara)	LF
Momordica cochinehirensis, Spr.	(Kankard.)	F
Moringa oleifera, Lamk.	(Sajana)	LF'
Musa paradisiaca, L.	(Kadali)	F
Phaseolus mungo, L.	(Muga)	F
Phaseolus vulgare, L.	(Biri)	F
Pisum sativum, L.	(Matara)	L
Raphanus sativus, L.	(Mula)	L
Solanum melongena, L.	(Baigana)	F
Solanum tuberosum, L.	(Bilatialu)	L
Spondius magifera, willd.	(Ambada, salama)	LF
Tagetes patula, L.	(Gendu)	LF
Tamarindus indica, L.	(Tentuli)	LF
Ziziphus jujuba, Lamk.	(Barakoli)	F
Lagenania vulgaris	(Lau)	F
Vigna catjung	(Jhudnaga)	F

L- Leaves, F- Fruits, F'-Flower

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The continuous consumption of leaves of Dalbergia also often leads to defoliation. The most interesting aspect of their feeding habits is that they are frugivorous, taking all varieties of fruits. Fruits like mangoes, guava and sapota are severely attacked. When threatened they jump from one branch to another at high speed which makes the immature fruits fall down, causing a great loss to the orchardists. Sometimes during food scarcity, the monkeys also take jackfruits. They also damage the coconut flowers.

The people made several trials to grow some other crops in the main crop field which are not palatable to these animals but the langurs are intelligent enough to change their food habits and become well adapted to live on presently available food in the field. The farmers try to cultivate the non-preferred crops like chilly and bitter gourd, etc. in place of potatoes and brinjal. After some time, however, the same non-preferred vegetables become preferred by the langurs. It has been experienced by the local people that the change of unpalatable crops to palatable food cause a great loss to them. At last farmers cultivated pine apple in the field which has never been recorded as food of the monkeys and now it is found that the same also is finished. This hide and seek behaviour of these primates affected the poor farmers to a great extent. The loss ultimately affects the standard of living and quality of life of man and finally to the state economy. Therefore initiatives should be taken to solve this problem. In this regard the authors suggest some useful solutions.

Afforestation of wastelands with food plants of Indian origin will be the best way to reduce the monkey's dependency on crops. Translocation of monkeys from over populated areas to suitable places could reduce stress on crop damage. Killing them by tribal groups who are monkey-eaters could be allowed to restrict the population only when the other two methods fail to check their population. In addition, the farmers and orchardists can take steps to safeguard their crops by being vigilant especially during day time.

References

Behura, B. K. (1989) Monkey Business. Science Reporter 28(7): 374-382.

Dr. Vore, I. and Eimerl, S (1969). The Primates. Timelife International (Netherland) N. V. 127 P.P.

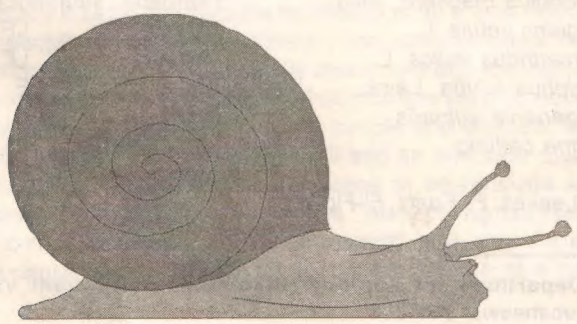
Mohnot, S. M. (1979) Primates in trouble ? Science Reporter 12(15): 49-52.

Roonwal, M. L and Mohnot, S. M. (1977) Primates of South Asia, Harvard University Press. Cambridge, Massachusetes London, England 422 pp.

SNAILS OF MADHAV NATIONAL PARK

Pradeep Shrivastava & Rajiv Saxena

Snails form the largest group among molluscs and vary widely in structure and habits. They are mainly categoried as lung breathing land snails, freshwater snails and sea snails. A faunal study of snails was conducted during 1994 on the banks of Sakhya Sagar (25°26' N - 77°42'E) which is situated in the central zone of Madhav National Park (77°15' - 78°30'E and 24°50'-25° 55'N). The shoreline of the Lake is mostly muddy marshy gradually slopping down to shallow and then deep water. The submerged vegetation includes *Hydrilla verticillata, Vallisneria spiralis, Chara* sp. and *Potamogeton* sp. Floating vegetation is dominated by *Nymphaea nuchalis, Nymphoides* sp. and emergent vegetation by *Scirpus, Typha* and *Phragmites.*



The snails recorded during the study period are as follows.

1. *Indoplanosbis exustus* (Deshayes 1834)
2. *Lymnaea acuminata* (Lamark 1822)
3. *L. luteola* (Lamark 1822)
4. *Gyraulus convexinsculus* (Hutton 1849)
5. *Bellamya bengalensis* (Lamark 1822)
6. *Shaira tuberculata crebra* (Lee 1850)
7. *Passeysia fevidens viridula* (Benson 1862)
8. *Lamellidens jenkinsianus* (Benson 1862)
9. *Corbicula peninsularis* (Prashad 1928)

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